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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,861	09/16/2003	Kazuhiko Nishizawa	393032040900	3137

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EXAMINER

CARIASO, ALAN B

ART UNIT	PAPER NUMBER
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2885

MAIL DATE	DELIVERY MODE
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10/19/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/663,861	NISHIZAWA, KAZUHIKO	
	Examiner	Art Unit	
	Alan Cariaso	2885	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Receipt of applicant's response on July 5, 2007 is acknowledged. Claims 1-17 are pending.

Response to Amendment

2. In regards to claims 1, 2, 9 and 10, applicant argues that: Oldham does not disclose "said light guide is composed of light transmitting elastic body"; that the text (col.3, lines 60-66) in Oldham cited in the office action does not disclose a light guide made out of elastic material; and alleges that the plastic materials acrylonitrile butadiene styrene (ABS) and Lexan® disclosed by Oldham are known examples of rigid plastics. Applicant further argues that Oldham teaches crush ribs 44, 46 and 47 as teaching against elastic material.
3. In response, such polycarbonates inherently have some degree of elasticity. Nevertheless, the prior art to SUGIYAMA et al (US 5,982,969) and ROBERTS (4,600,975) are cited as teaching optical transmission tube or light tubing made of flexible polycarbonates (at least, ABS or Lexan®), that can be equivalently rigid (in ROBERTS, col.2, lines 39-41). In regards to the crush ribs in Oldham, it is also said that the ribs are deformed (col.4, line 44) and that Oldham prefers to prevent damage to at least the light pipe (col.4, lines 54-58). As set forth in the office action below, there is motivation to make the material having some degree of elasticity to provide proper connection or coupling so as to prevent damage at least to the portion that transmits or guides light, allowing some deformation, such as, of the peripheral ribs.

4. Applicant argues that Oldham does not disclose a light guide with uniform cross section. In rebuttal, it is apparent that Oldham does disclose light guide having a uniform cross section (fig.4B). Fig.4B shows a cross-section with no discontinuities, no random spacing, and therefore appears uniform. Similarly, Braidwood, Salmon and Gdovin have cross-sections that are entirely or substantially uniform per material. Applicant will have to consider further defining the preferred uniform cross-section in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over OLDHAM (US 5,481,440) in view of SUGIYAMA et al (US 5,982,969).

7. In regards to claims 1 and 9, OLDHAM discloses an electronic device comprising an indicator (figs.1-5), including: a panel (13) on which said indicator (fig.5) is mounted and an insertion hole (22) provided through said panel (13), said indicator (fig.5) comprising a light guide (31) with one end surface (38) exposed to a front surface side (16) of said panel (13) and another end surface (39,42) projecting to a rear surface side (14) of said panel, through said insertion hole (22), and a light emitting unit (27) provided on the rear surface side (14) of said panel (13) such that a light emitting

portion thereof (27, fig.5) is opposed to the other end surface (39,42) of said light guide (31), and said light guide (31) is composed of a light transmitting plastic body (col.3, lines 60-66) having a uniform cross section (fig.4B) perpendicular to an axial direction thereof (figs.4A-4B), transforms (col.4, lines 42-50) when being pressed into said insertion hole (22), and is fixed by an outer peripheral surface (44,46,47) thereof near the one end surface being in pressure contact (col.4, lines 42-50) with an inner peripheral surface of said insertion hole (22), or frictionally held by said insertion hole.

8. However, OLDHAM does not disclose the light transmitting body of the light guide as being elastic. SUGIYAMA teaches an optical transmission tube (1) constructed of flexible materials that include many polycarbonates and elastomers, including ABS resins (col.4, lines 52-67) that make up the cladding (11) and solid flexible polycarbonates that make up the central core (12, col.5, lines 18-34), for the purpose of facilitating molding the material into tubular form, and applied to at least electronic panel devices of (figs.13,15,16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electronic device of OLDHAM to include the flexibility or elasticity in the light guide materials as taught SUGHIYAMA et al in order to facilitate molding the material into tubular form, and to allow some deformation which minimizes any core cracking when fittedly connected to input/output couplers that position the light guide(s) and allow unobstructed light transmission/guiding.

9. Regarding claims 2 and 10, which commonly recite "wherein: said insertion hole is formed by performing burring for said panel from the front surface side thereof to the

rear surface side; and holding of said light guide in said panel is implemented by said insertion hole having a contact area increased by the performance of the burring", note that the method of forming the device is not germane to the issue of patentability of the device itself. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Therefore, these (i.e. method) limitations have not been given patentable weight.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3-6 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over OLDHAM (US 5,481,440) in view of SUGIYAMA et al (US 5,982,969) as applied to claims 1, 2, 9 and 10 above, and further in view of BRAIDWOOD (US 2,374,408).

12. In regards to claims 3 and 11, OLDHAM does not disclose "the length of said light guide is set shorter than a distance from the front surface of said panel to a top portion of said light emitting unit by a clearance". BRAIDWOOD teaches a radiolucent

rod (54, figs.8-11) having a length shorter than a distance from the front surface of the panel (11) to a top portion of lamp (58) by a clearance (fig.8) for the purpose of directing light from the lamp (58) positioned behind the panel (11) to the output end (56) without light leakage (page 2, column 2, lines 48-50) and without thermal degradation of the rod. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electronic-indicator device of OLDHAM to include the shorter length of the rod as taught by BRAIDWOOD in order to provide clearance between the lamp and the rod avoiding thermal degradation from the heat and maintaining optimal guiding of light without light leakage.

13. In regards to claim 12, given that BRAIDWOOD teaches the clearance between the light transmitting rod (54) and lamp (58), the clearance would appear to be capable defining a dimension which absorbs a cutting error occurring when the long light transmitting elastic body is cut in the predetermined length to be formed into said chip form.

14. Claims 4-6 and 13-16 commonly recite "the end surface of said light guide on the front surface side of said panel is a rough surface" or "the end surface of said light guide on the front surface side of said panel is formed into a rough surface", not disclosed by OLDHAM. BRAIDWOOD teaches radiolucent rod element (19,20,21) having a front or end surface (19) that is ribbed (22) (page 1, col.2, lines 51-52) for the purpose of giving a lens or bull's eye effect. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electronic-indicator device of OLDHAM to include the ribbed or rough end surface of the light guide as taught by

BRAIDWOOD in order to optically refract emitted light and catch the bulls-eye or visual attention of an observer.

15. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over OLDHAM (US 5,481,440) in view of SUGIYAMA et al (US 5,982,969) as applied to claims 1, 2, 9 and 10 above, and further in view of SALMON et al (US 5,938,324).

16. OLDHAM discloses the claimed invention including the insertion hole (22) connected to the panel (13) and which holds the light guide (31) with the inner wall (22) of the insertion hole (22). However, OLDHAM does not disclose a cylindrical flange connected to the panel.

17. SALMON teaches a display panel (63,64 fig.2B) formed of an opening (col.3, lines 29-33) (figs.2A-2B) having an inner wall of the cross-sectional area shape (24) corresponding to that of the light transmitting member (22) that includes a circular cross-section (col.2, lines 54-56), and therefore a cylindrical flange of the panel (fig.2A) for the purpose of facilitating insertion of the light transmitting member into a secure position within the panel opening.

18. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electronic-indicator device of OLDHAM to include the holes of the panel with cylindrical flanges as taught by SALMON et al in order to facilitate mechanical insertion of the light transmitting member into a secure position within the opening that enables optical alignment and efficient guidance of light through the light transmitting member or light guide and the opening.

19. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over OLDHAM (US 5,481,440) in view of SUGIYAMA et al (US 5,982,969) as applied to claims 1, 2, 9 and 10 above, and further in view of GDOVIN et al (US 4,310,974).

20. OLDHAM discloses a method of mounting an indicator (figs.2 & 5) in an electronic device (fig.1), comprising: a first step of forming an insertion hole (col.2, lines 26-27) through a panel (13) of the electronic device (fig.1); a second step of placing a light emitting unit (fig.2) at a position apart from the insertion hole (21,22,23) on a rear surface side (14) of the panel (col.2, lines 44-47) by a predetermined length (by PCB 12) such that a light emitting portion thereof (figs.2-3 & 5) is opposed to the insertion hole (21,22,23); a third step of cutting (col.4, lines 16-28) a long light transmitting elastic body (31), which is formed to have a uniform shape of a cross section (col.4, lines 3-11) perpendicular to an axial direction thereof, in a predetermined length along a cross section perpendicular (38) or oblique (41,42) to the axial direction to form a light guide chip (29,30,31); and a fourth step of pressing the light guide chip (31) into the insertion hole (22) of the panel (col.4, lines 42-43), thereby causing the light guide chip (31) to transform and be held in pressure contact with the inner peripheral surface of the insertion hole (col.4, lines 44-50), wherein said steps are performed in any step order of (1) to (5): (1) an order of said first, second, third, and fourth steps, (2) an order of said first, third, second, and fourth steps, (3) an order of said first, third, fourth, and second steps, (4) an order of said third, first, second, and fourth steps, and (5) an order of said third, first, fourth, and second steps; wherein the light guide chip (31) is pressed into

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(col.4, lines 47-52) said insertion hole (22) such that the end surface (38) is exposed to the front surface side (16) of said panel (13) in said fourth step.

21. However, OLDHAM does not disclose within the fourth step of pressing the light guide chip into the insertion hole from the front surface side of the panel, and at least one of the end surfaces of said light guide chip is formed into a rough surface in said third step. GDOVIN teaches a method step of inserting a precision cut optical fiber (45) in counter-bore (39) of plate (10) led by an input end of the fiber (45) against a bottom step of the bore (45) (col.5, lines 12-24) for the purpose of leaving a portion of the front or output end of the optical fiber to be a position of being shaped that provides any one or more directional light (col.5, lines 44-50). GDOVIN further teaches the output ends of the precision cut fibers to include the method of at least being ground (col.5, lines 44-47) for the purpose of providing output light that is omni-directional.

22. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of mounting an electronic-indicator device of OLDHAM to include the step of inserting the optical fiber from the front surface of the plate and the front end surface of the optical fiber being ground or rough as taught by GDOVIN et al in order to individually position each optical fiber or light guide in a position that facilitates shaping the front output end especially if the order of forming or cutting parts of the light guide is changed and allows flexibility in variability of directional light, one of which output end includes a ground or rough surface end that increases its viewing angle with omni-directional output light.


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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Cariaso whose telephone number is (571) 272-2366. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Lee can be reached on (571) 272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Alan Cariaso
Primary Examiner
Art Unit 2885

October 15, 2007
AC